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ALSTON&BIRD LLP
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
704-444-1000
Fax: 704-444-1111

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Andrew T. Spence
Reg. No. 45,699

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In re:	Hrubes et al.	Confirmation No.	9849
Appl. No.	10/682,500	Art Unit:	2863
Filed	October 9, 2003		
Title:	METHOD AND CURCUIT FOR LINEARIZING NONLINEAR CURVES		

Please process the attached the NOTICE OF APPEAL (2 pages), the PETITION AND FEE FOR EXTENSION OF TIME (1 page), the PRE-APPEAL BRIEF REQUEST FOR REVIEW (1 page), and REMARKS/ARGUMENTS (4 pages) and fax confirmation to Andrew T. Spence at 704-444-1111. Thank you.

NO. OF PAGES: (Including cover page) 9

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USER CODE:	SIMMB	FAX NUMBER:	571-273-8300
CLIENT/MATTER:	034691/269294		
REQUESTED BY:	Sarah Simmons 1142	VOICE NUMBER:	

CLT01/4544166v1

PRE-APPEAL BRIEF REQUEST FOR REVIEW **(filed with the Notice of Appeal)**	Docket Number 034691/269294
Application Number 10/682,500	Filed October 9, 2003
First Named Inventor Franz Hrubes et al.	
Art Unit 2863	Examiner John H. Le

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Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

Attachment: Remarks/Arguments (four (4) pages)

Respectfully submitted,

Andrew T. Spence
Registration No. 45,699

Date 9/6/05

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

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Sarah B Simmons
Sarah B. Simmons

September 6, 2005
Date

REMARKS/ARGUMENTS

This communication is filed in response to the final Official Action of April 6, 2005, and the Advisory Action of July 25, 2005. The final Official Action and Advisory Action continue to reject Claims 1-4 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,581,714 to Reid. The final Official Action and Advisory Action also continue to reject the remaining claims, namely Claims 5-41 under 35 U.S.C. § 103(a) as being unpatentable over the Reid patent in view of various combinations of U.S. Patent No. 4,873,655 to Kondraske, U.S. Patent No. 5,848,383 to Yunus, U.S. Patent No. 3,926,052 to Bechel, and U.S. Patent No. 4,148,220 to Spofford. In addition, the final Official Action objects to Claim 1 as including the phrase "the linearization circuit," which should read "the analog linearization circuit." As Applicants response to the final Official Action amended independent Claim 1 as suggested by the final Official Action, and as the Advisory Action does not further specify otherwise, Applicants presume for purposes of appeal that the objection to independent Claim 1 has been overcome.

As explained below, Applicants respectfully submits that the claimed invention of the present application is patentably distinct from Reid, Kondraske, Yunus, Bechel and Spofford, taken individually or in combination. In view of the remarks presented herein, Applicants respectfully request reconsideration and reversal of all of the aforementioned rejections.

A. The Section 102 Rejections

Claims 1-4 of the present application currently stand rejected as being anticipated by Reid. As explained in response to the final Official Action, the invention as recited in independent Claim 1 relates to a method for linearizing a nonlinear curve, wherein the curve represents the relationship between input signals and output signals of a sensor and wherein an output signal is respectively associated to each input signal. The linearization is performed by using an analog linearization circuit with digitally adjusted parameters, i.e. the analog linearization circuit can be adjusted by digitally adjustable components.

In accordance with the method of independent Claim 1, then, the signal which is input to the linearization circuit is linearized by analog components and is not digitized while passing the linearization circuit, i.e., the linearization is performed by using analog components (1, 10, 11, 12, 13 and 14). Each additional block which is shown in Fig. 1, including the sequence controller, is used to perform the step of adjusting the analog linearization circuit in an essentially automated way. To adjust the analog linearization circuit, then, three sensor signals which are output by the sensor at three different measuring points are digitized. These values are stored by the sequence controller and one after the other is output to the linearization circuit. The output of the linearization circuit is compared to corresponding reference values which are given by three sources of reference signals. Alternatively other devices like keyboards might be used. Successively, the single digitally adjustable parameters of the analog linearization circuit are changed until the output of the linearization circuit and the corresponding reference value are within certain limits.

As also explained in response to the final Official Action, the Reid patent discloses a method for calibrating and linearization the output of an instrument that includes a transducer having an output that is a nonlinear function of a property of interest of a fluid. More particularly, Reid relates to a gas sensor, commonly called a Luft detector, which measures the concentration (or partial pressure) of one gas in another by measuring the quantity of infrared radiation that is absorbed by the gas of interest as it flows through the sample cell that is illuminated by the infrared source of known intensity. There are different valves which are used to direct one of a zero gas (with none of the gas of interest), a standard gas (with a known non-zero concentration of the gas of interest) and an unknown sample gas (with an unknown concentration of the gas of interest) to the sample cell. These valves are controlled by a valve driver which is linked to a digital computer. The infrared light is received by an infrared transducer and its signal is converted to a digital number which is used by the digital computer for linearizing the output. The linearization is performed by the digital computer using digital calculation, i.e. by calculating an inverse of the transfer function of the transducer.

Thus, Reid teaches a method for linearizing a nonlinear curve (calculating inverse of the transfer function) comprising the step of adjusting the linearization circuit in an essentially automated way (measuring the output of the sensor while using the zero gas and while using the standard gas) by means of a sequence controller (computer). However, Reid does not teach or suggest a method for linearizing a nonlinear curve with an analog linearization circuit with digitally adjustable parameters which are output by a sequence controller, as does independent Claim 1 of the present application. Reid just relates to linearization using digital calculations. In this regard, as suggested above, Reid specifically and explicitly discloses that the output of the Luft detector is "demodulated and digitized in a signal interface board [] before being communicated to a suitable digital computer [] for further processing and/or for display on a human readable display." Column 3, lines 54-58.

Again, Applicants recognize that Reid refers to analog linearization circuits while presenting the state of the art. Reid does not teach or suggest, however, usage of such an analog circuit for performing a linearization of a signal in the manner as presently claimed. For example, Reid does not teach or suggest linearizing a nonlinear curve with an analog linearization circuit having digitally adjustable parameters, as also recited by independent Claim 1. In fact, other than referring to analog linearization circuits in presenting the state of the art, Reid does not teach or suggest any usage of such a circuit, much less in a manner recited by the claimed invention.

Applicant therefore respectfully submits that the claimed invention of independent Claim 1, and by dependency Claims 2-4, is patentably distinct from Reid.

B. The Section 103 Rejections

The remaining claims, namely Claims 5-41, stand rejected as being unpatentable over Reid and Kondraske, or Reid and Kondraske in view of Yunus, Bechel or Spofford. Like Reid, Applicants respectfully submit that none of Kondraske, Yunus, Bechel or Spofford individually teach or suggest the aforementioned features of independent Claim 1. As none of the cited references individually teach or suggest the aforementioned features, none of the various combinations of the cited references teach or suggest the respective features of independent Claim 1. Accordingly, Applicants respectfully submit that independent Claim 1, and by dependency Claims 2-41, are patentably distinct from Reid, Kondraske, Yunus, Bechel and Spofford, taken individually or in combination.

Moreover, Applicants again respectfully submit that the combination of Yunus, Kondraske and Reid plus using the knowledge of one of ordinary skill in the art is an impermissible hindsight view of the current invention. Yunus shows the linearization with an analog linearization circuit. Kondraske teaches to compare the signal of a sensor with the signal of a reference transducer wherein both sensors measure the same physical variable. Reid teaches a calibration of a linearization circuit in an essentially automated way by means of a sequence controller. When additionally using the knowledge of one of ordinary skill of the art and knowing the current invention, it might be obvious to perform the method of the current invention as claimed. But it is not obvious, which facts should guide one of ordinary skill in the art to perform the linearization and the adjustment of the analog linearization circuit in the claimed manner.

CONCLUSION

For at least the foregoing reasons, Applicants respectfully request that the rejections be reversed.

CLT01/4744806v1